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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,345	10/23/2001	Joshua I. Pine	00CXT0434I	4259

7590 07/15/2005  
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EXAMINER

VIEAUX, GARY

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/072,345	Applicant(s) PINE, JOSHUA I.	
	Examiner Gary C. Vieaux	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### ***Change of Examiner***

5           The prosecution of this application has been transferred to Examiner Gary C. Vieaux from the docket of Examiner Jeremy R. Elder. Any inquiry concerning this or earlier communications should be directed to the current Examiner of record. Current contact information is provided in the last section of this communication.

The Amendment filed May 2, 2005 has been received and made of record. In response to the first Office claims 1, 2, and 8-17 have been amended.

15           Applicant's arguments with respect to claims 1-14 have been considered but are  
moot in view of the new ground(s) of rejection.

Applicant's arguments filed with respect to claims 15-20 have been fully considered and are persuasive. It is noted that the amendments to claim 15 are not substantive in nature. It is further noted that Applicant applies argument for claim 15, 20 by way of similarity to claim 8 (Remarks, p.10 line 9 – p. 11 line 12.) The 103(a) rejection of claims 15, and all dependent therefrom, have been withdrawn.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- 5 (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-3, 7-10, 12, 14-16, 18, and 20** are rejected under 35 U.S.C. 102(b) as  
10 being anticipated by Harada et al. (US 6,108,036.)

Regarding claim 1, Harada discloses a method for increasing image resolution in which two images are captured and combined into a single enhanced image in which the final resulting image is of greater resolution than each of the contributing images (col. 42 line 65 – col. 43 line 13.)

15 Regarding claims 8 and 15, Harada discloses a device for increasing image resolution in which two images are captured, stored, and combined into a single enhanced image in which the final resulting image is of greater resolution than each of the contributing images (fig. 1, col. 25 line 54 – col. 26 line 2, col. 42 line 65 – col. 43 line 13.)

20 Regarding claim 2, Harada discloses all of the limitations of claim 2 (see the 102(b) rejection to claim 1 supra) including disclosing interpolation of pixel values (col. 41 lines 1-19.)

Regarding claims 3, 12 and 18, Harada discloses all of the limitations of claims 3, 12 and 18 (see the 102(b) rejection to claims 1, 8, and 15, respectively, supra) including  
25 disclosing imaging via a CCD (fig. 1 indicator 4, col. 1 lines 19-21.)

Regarding claims 7, 14 and 20, Harada discloses all of the limitations of claims 7, 14 and 20 (see the 102(b) rejection to claims 1, 8, and 15, respectively, supra) including disclosing wherein the imaging array is a monochrome imaging array (col. 12 lines 47-64.)

5        Regarding claims 9 and 16, Harada discloses all of the limitations of claims 9 and 16 (see the 102(b) rejection to claims 8 and 15, respectively, supra) including disclosing means for transmitting an instruction to capture and transmit additional images (second imaging mode: col. 7 lines 16-38, col. 25 line 60 – col. 26 line 2.)

10        Regarding claim 10, Harada discloses all of the limitations of claim 10 (see the 102(b) rejection to claim 8 supra) including disclosing a user selected mode to instruct additional image capture (col. 6 lines 52-53, col. 7 lines 16-38, col. 25 lines 8-12.)

### ***Claim Rejections - 35 USC § 103***

15        The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

20        (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 4, 5, 13 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. (US 6,108,036) in view of Examiner's Official Notice.

25        Regarding claims 4, 13 and 19, Harada discloses all of the limitations of claims 4, 13 and 19 (see the 102(b) rejection to claims 1, 8, and 15, respectively, supra) except

for disclosing wherein the array is comprised of complementary metal oxide semiconductor (CMOS) sensors.

Nevertheless, Official Notice is taken regarding the use of a CMOS sensor for image sensing purposes; a concept that is well known and expected in the art. It would  
5 have been obvious to one of ordinary skill in the art at the time of the invention to employ a CMOS sensor in place of the CCD for the purposes of power efficiency or for the ability to add on-chip computing capabilities.

Regarding claim 5, Harada discloses all of the limitations of claim 5 (see the 102(b) rejection to claim 1 supra) except for disclosing wherein the array is comprised of  
10 silicon germanium (SiGe) sensors.

Nevertheless, Official Notice is taken regarding the use of a SiGe sensor for image sensing purposes; a concept that is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a SiGe sensor in place of the CCD for the purposes of attaining higher gain  
15 values due to the decreased potential barriers created.

**Claims 6, 11 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (US 6,727,954.)

Regarding claims 6, 11 and 17, Harada discloses all of the limitations of claim 6,  
20 11 and 17 (see the 102(b) rejection to claims 1, 8, and 15, respectively, supra) except for disclosing wherein the successive time interval is between 10 ms and 100 ms.

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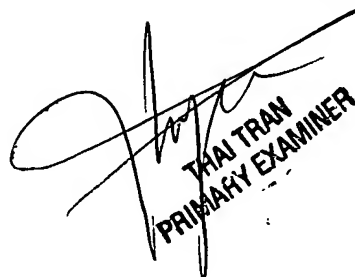
Nevertheless, Okada discloses a camera and image processing system where three successive images are captured at intervals of 100 milliseconds (col. 5 lines 46-50.) It would have been obvious to one of ordinary skill in the art at the time of the invention to specify in the system of Harada a time interval of 100 milliseconds as taught by Okada for the benefit of defining small time intervals to eliminate blurring the images, as well as assist in avoiding large translational changes in motion.

### ***Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary C. Vieaux whose telephone number is 571-272-7318. The examiner can normally be reached on Monday - Friday, 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Thai Q. Tran, can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned will be 703-872-9306 until September 15, 2005, and beginning July 15, 2005 will be 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



THAI TRAN  
PRIMARY EXAMINER